REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-6, 8-10, 12-29, 31-33, 35-38, 40 and 41 are pending in the present application. Claims 7, 11, 30, 34 and 39 have been canceled and Claims 1, 2, 6, 8-10, 12, 14, 15, 19, 24, 25, 29, 31-33, 35, 37, 38, 40 and 41 have been amended by the present amendment.

In the outstanding Office Action, the claim for priority was denied; Claims 1, 2, 9-12 and 14 were objected to; Claims 1, 4-6, 24, 27-29 and 38 were rejected under 35 U.S.C. §102(b) as anticipated by JP 07-114572 (hereinafter "Sharp Corp."); Claims 2, 3, 25 and 26 were rejected under 35 U.S.C. §103(a) as unpatentable over Sharp Corp. in view of Rao et al.; Claims 7-13, 30-36, 39 and 40 were rejected under 35 U.S.C. §103(a) as unpatentable over Sharp Corp. in view of Douglas R. Cutting et al.; Claims 14-16, 22, 23, 37 and 41 were rejected under 35 U.S.C. §103(a) as unpatentable over Dumais et al. in view of Rao et al; Claims 17, 18 and 20 were rejected under 35 U.S.C. §103(a) as unpatentable over Dumais et al. in view of Rao et al. and further in view of Park et al.; Claim 19 was rejected under 35 U.S.C. §103(a) as unpatentable over Dumais et al. in view of Rao et al. and further in view of Sharp Corp.; and Claim 21 was rejected under 35 U.S.C. §103(a) as unpatentable over Dumais et al. in view of Rao et al. and further in view of Rao.

First, Applicants note their claim for priority is based upon an application filed in Japan on December 24, 1998. Since the day that is 12 months after the filing date of the application fell on Federal Holiday, Friday, December 24, 1999, the application was submitted on the next business day, Monday, December 27, 1999 in conforming to 35 U.S.C. § 21(b). Thus, it is respectfully requested the priority be acknowledged.

Regarding the objections to Claims 1, 2, 9-12 and 14, the appropriate claims have been amended in light of the comments noted in the outstanding Office Action. Accordingly, it is respectfully requested the objections be withdrawn.

Claims 1, 4-6, 24, 27-29 and 38 stand rejected under 35 U.S.C. §102(b) as anticipated by Sharp Corp. This rejection is respectfully traversed.

Amended Claim 1 is directed to a document processor which displays and prints in a predetermined format a plurality of document data input thereto that includes a selection unit which allows a user to select all or part of document data stored in a document memory and a work processing unit which work-processes all or part of the document data based on the data relating to characteristics of letter rows extracted by said characteristics extraction unit, wherein processing performed by said work processing unit include classifying the characteristics, retrieving the characteristics, rearranging the characteristics, extracting a representative value, a maximum value and a minimum value from the characteristics, and the calculating characteristics. Independent Claims 24 and 38 include similar features.

In non-limiting examples, Figures 9 and 10 show document data (the selected regions 901, 1001) selected by the selector (selection unit) 403 (see also specification, page 43, line 17 to, page 44, line 1). Also, Figure 12 illustrates the different tasks performed by the work processing unit that includes classifying the characteristics, retrieving the characteristics, rearranging the characteristics, extracting a representative value, a maximum value and a minimum value from the characteristics, and the calculating characteristics (see also specification, page 44, line 16 to, page 48, line 17).

By providing such a work processing unit, the document processor recited in amended Claim 1 is able to provide further analysis of information hidden in the document cluster and

avoid having a separate analyzing device for analyzing information hidden in the document cluster.[1]

On the contrary, Sharp Corp. discloses a classifying unit 107 that classifies documents based on the characteristic vector (see paragraph [0017]). The task performed by the classifying unit 107 is simply to classify documents. However, Sharp Corp. does not teach or suggest tasks performed by the work processing unit which includes classifying the characteristics, retrieving the characteristics, rearranging the characteristics, extracting a representative value, a maximum value and a minimum value from the characteristics, and the calculating characteristics. As such, the Sharp Corp. structure does not provide further analysis of information hidden in the document cluster. Further, Sharp Corp. does not teach or suggest that the document analysis part 102 allows a user to select a specific region of a document data.

Accordingly, it is respectfully submitted independent Claims 1, 24, 38 and each of the claims depending therefrom are allowable.

Claims 2, 3, 25 and 26 stand rejected under 35 U.S.C. §103(a) as unpatentable over Sharp Corp. and Rao et al. This rejection is respectfully traversed.

Claims 2 and 3 depend on Claim 1 and Claims 25 and 26 depend on Claim 24, which as discussed above are believed to be allowable. Accordingly, it is respectfully requested this rejection also be withdrawn.

Claims 7-13, 30-36, 39 and 40 stand rejected under 35 U.S.C. §103(a) as unpatentable over Sharp Corp. and Douglas R. Cutting et al. This rejection is respectfully traversed.

Amended Claim 8 is directed to a document classification device which classifies documents based on contents thereof that includes a vector correction unit which corrects

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[1] See Specification, page 5, line 17 to, line 23 and page 6, line 18 to, page 7, line 1.

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document characteristic vectors stored in the document characteristic vector memory so that document characteristic vectors of documents belonging to clusters selected by the cluster selection unit are deleted. Independent Claims 31 and 40 include similar features.

In non-limiting examples, Figures 33 and 34 illustrate the vector correction unit 3302 and the step S3413 in the flow chart, respectively, including a vector correction unit 3302 (S3413) which corrects document characteristic vectors stored in the document characteristic vector memory 3301 (S3404) so that document characteristic vectors of documents belonging to clusters selected by the cluster selection unit 3010 (S3410) are deleted (see also specification, page 75, line 15 to, page 79, line 17).

By providing such a vector correction unit, the effects of clusters which are already known can be eliminated and new clusters can be created. In return, the vector correction unit enables a document classification device to gradually determine contents in a given document cluster.[2]

On the contrary, Douglas R. Cutting et al. disclose a Scatter/Gather Browsing in which documents are first scattered into a small number of document groups, then combined (gathered) based on user's selection to form a subcollection and subsequently, this scatter and gather process is repeated.[3] Douglas R. Cutting et al. does not delete documents from subsequent classification unlike as performed by the vector correction unit recited in amended Claim 8.[4] As such, Douglas R. Cutting et al. is less efficient in gradually determining contents in a given document cluster. Further, it is respectfully submitted Sharp Corp. also does not teach or suggest the features recited in the independent claims.

Accordingly, it is respectfully submitted independent Claims 8, 31, 40 and each of the claims depending therefrom are allowable.

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[2] See Specification, page 121, line 13 to, page 122, line 1.
[3] See Douglas et al., page 2, column 2, line 4 to, line 15.
[4] See Specification, page 77, line 11 to, line 15.

Claims 14-16, 22, 23, 37 and 41 stand rejected under 35 U.S.C. §103(a) as unpatentable over Dumais et al. in view of Rao et al.

Amended Claim 14 is directed to a document classification device which classifies document clusters in accordance with contents thereof that includes a divided document classification unit which classifies the divided document data such that multiple topics and meanings in a document data are classified into categories according to specific topics and meanings. Independent Claims 37 and 41 include similar features.

In non-limiting examples, Figures 42 and 52 illustrate the divided document classification unit 5004 and how documents are divided according to specific topics and meanings, respectively, including a divided document classification unit 5004 which classifies the divided document data (divided documents 1-5) such that multiple topics and meanings in a document data are classified into categories according to specific topics and meanings (see also specification, page 110, line 7 to, page 111, line 16).

By providing such a divided document classification unit, the document classification device recited in amended Claim 14 avoids a document being classified under a category different than the one intended by a user, thus allowing the user to easily comprehend the classification categories.[5]

On the contrary, Dumais et al. disclose a text classifier in which a feature extraction process 210 that generates a set of feature vectors from a set of training textual information objects 205, the set of feature vectors being applied to a feature reduction process 220 to produce reduced feature vectors and the reduced feature vectors being applied to classifiers 250 for classification.[6] Thus, Dumais et al. does not teach or suggest classifying as

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[5] See Specification, page 5, line 1 to, line 10 and page 7, line 9 to, line 19.

[6] See Dumais et al., column 22, line 41 to, line 68 and Figure 2.

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performed by the divided document classification unit.[7] As such, Dumais et al. is less

efficient in avoiding a document being classified under a category different than the one

intended by a user. Further, it is respectfully submitted Rao et al. also does not teach or

suggest the features recited in the independent claims.

Furthermore, Park et al. disclose a pattern matching apparatus and method that

considers distance and direction. However, Park et al. disclose a pattern matching apparatus

in which the feature extractor 102 extracting feature vector of an input pattern such as the

number of black pixels within a partial area and direction of strokes, selecting one of the

nearest/farthest neighbor models in the database 106 with respect to an input pattern for the

pattern classifier 104 to determine whether to use the neighbors as the comparison target and

the pattern matching unit 108 matching comparison target classified by the pattern classifier

104 with the input patter.[8] Thus, Park et al. does not teach or suggest classifying as

performed by the divided document classification unit recited in amended Claim 14. As

such, Park et al. is less efficient in avoiding a document being classified under a category

different than the one intended by a user. Moreover, it is respectfully submitted Sharp Corp.

also does not teach or suggest the features recited in the independent claims.

Rao discloses an information retrieval system providing secondary content analysis on

collections of information objects. Nevertheless, Rao discloses the ephemeral SCA engine as

secondary content analysis that tokenizes, filters, and produces statistics of token occurrences

or proximity of words or phrases that are used to aid in refining query. Rao does not suggest

or disclose classifying as performed by the divided document classification unit recited in

[7] See Dumais et al., column 23, line 48 to, line 64.
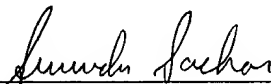[8] See Park et al., column 3, line 9 to, line 22 and line 33 to, line 59.

amended Claim 14.[9] As such, Rao does not avoid a document being classified under a category different than the one intended by a user.

Accordingly, it is respectfully submitted independent Claims 14, 37, 41 and each of the claims depending therefrom are allowable.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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[9] See Rao, column 5, line 52 to, line 59 and column 6, line 18 to, line 59 and Figure 5.

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